

# EMERGENCY AIRWORTHINESS DIRECTIVE



Aircraft Certification Service  
Washington, DC

U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

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**DATE: April 29, 2005**  
**AD #: 2005-09-51**

We are sending this emergency airworthiness directive (AD) 2005-09-51 to all owners and operators of Turbomeca Arrius 2F turboshaft engines.

## **Background**

This emergency AD results from the failure of a high pressure turbine (HPT) blade and damage to two other HPT blades in a Turbomeca Arrius 2F turboshaft engine on March 31, 2005. The blade failure caused an in-flight engine shutdown, which resulted in loss of the helicopter and fatalities and injuries to the occupants. A preliminary investigation of the engine found that a ferrule started a disturbance that reduced the cooling effect of the secondary air system. The secondary air system cools the HPT. Turbomeca identified 38 engines that might contain a configuration similar to the engine involved in the accident. This condition, if not corrected, could result in failure of the engine and subsequent loss of power.

## **Interim Action**

These actions are interim actions and we may take further rulemaking actions in the future.

## **FAA's Determination and Requirements of the Rule**

We have identified an unsafe condition that is likely to exist or develop on other Turbomeca Arrius 2F turboshaft engines of this same type design. This AD requires replacing the Module 2 before further flight on certain engines listed by serial number in this AD.

## **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

## Determination of Rule's Effective Date

We are issuing this AD under 49 U.S.C. Section 44701 according to the authority delegated to me by the Administrator, and it is effective immediately upon receipt.

## 2005-09-51 Turbomeca: Directorate Identification No. 2005-NE-14-AD.

### Effective Date

(a) Emergency AD 2005-09-51, issued on April 28, 2005, is effective upon receipt.

### Affected ADs

(b) None.

### Applicability

(c) This AD applies to certain Turbomeca Arrius 2F turboshaft engines listed by serial number (SN) in Table 1 of this AD.

**Table 1. Engine and Module Serial Numbers**

<b>Engine SN</b>	<b>Module 2 SN</b>	<b>Engine SN</b>	<b>Module 2 SN</b>
34416	01045	34435	01110
34417	01063	34436	01121
34418	01052	34437	01122
34419	01053	34438	01123
34420	01067	34439	01136
34421	01068	34440	01139
34422	01051	34441	01140
34423	01078	34442	01138
34424	01079	34443	01141
34425	01080	34444	01142
34426	01083	34445	01146
34427	01089	34446	01147
34428	01090	34447	01148
34429	01097	34448	01164
34430	01098	34449	01165
34431	01099	34450	01177
34432	01102	Not Installed	01149
34433	01103	34033	00125
34434	01109	34177	00446

### Unsafe Condition

(d) This AD results from failure of a high pressure turbine (HPT) blade and damage to two other HPT blades in a Turbomeca Arrius 2F turboshaft engine on March 31, 2005. We are issuing this AD to prevent failure of the engine and subsequent loss of power.

## **Compliance**

(e) You are responsible for having the actions required by this AD performed before further flight, unless the actions have already been done.

## **Replacing the Module 2**

(f) Before further flight, on Turbomeca Arrius 2F engines that have a SN listed in Table 1 of this AD, remove the Module 2 and replace the Module with a Module 2 that was overhauled or that has a SN not listed in Table 1 of this AD.

## **Alternative Methods of Compliance**

(g) The Manager, Engine Certification Office, has the authority to approve alternative methods of compliance for this AD if requested using the procedures found in 14 CFR 39.19.

## **Related Information**

(h) Direction General De L'Aviation Civile Emergency airworthiness directive No. UF-2005-073, dated April 27, 2005, also addresses the subject of this AD.

## **Contact Information**

(i) For further information, contact: Christopher Spinney, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-2599, telephone (781) 238-7175; fax (781) 238-7199.  
Issued in Burlington, MA, on April 28, 2005.

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